



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/596,262

06/07/2006

Klaus Hahn

12810-00264-US1

4654

23416 7590 09/22/2009
CONNOLLY BOVE LODGE & HUTZ, LLP
P O BOX 2207
WILMINGTON, DE 19899

EXAMINER

EASHOO, MARK

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

09/22/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,262	Applicant(s) HAHN ET AL.	
	Examiner Mark Eashoo	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/12/09.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1796

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Paquet et al. (US Pat. 5,650,106).

Considering Claims 1, 2, and 7: Paquet et al. teaches an expandable styrene polymer material comprising 95% by weight polystyrene homopolymer/standard polystyrene and 5% of a styrene-alphamethyl styrene copolymer (Table 3). The homopolymer has a molecular weight of 247,000 (Table 1) and the styrene-alphamethyl styrene copolymer has a molecular weight of 4,500 (6:42-46).

Considering Claims 3 and 6: Paquet et al. teaches the composition as comprising 4.7 pph of a blowing agent (Table 3) that can be an organic blowing agent (Claims 7-10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not

Art Unit: 1796

commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paquet et al. (US Pat. 5,650,106) as applied to claim 1 above, and further in view of Biglione et al. (EP 126459).

Considering Claim 4: Paquet et al. teaches the composition of claim 1 as shown above. Paquet et al. additionally teaches melt mixing a composition comprising 95% by weight polystyrene homopolymer/standard polystyrene and 5% of a styrene-alpha-methyl styrene copolymer (Table 3); mixing an organic blowing agent into the mixture in a extruder or mixer (4:5-8); cooling the mixture (4:13-17) to a foaming temperature of 127-131 °C (Table 3); extruding the composition through die gaps of 1.45 or 1.32 mm (Table 3).

Paquet et al. does not explicitly teach the blowing agent being incorporated at a temperature of at least 150 °C. However, differences in temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such temperature is critical. See MPEP § 2144.05. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used a temperature of at least 150 °C in the blowing agent incorporating step of Paquet et al., and the motivation to do so would have been, as Paquet et al. suggests, to ensure complete melting of the polymer material (4:3-5).

Paquet et al. does not teach pelletizing the melt underwater at a pressure in the range of 1 to 25 bar. However, Biglione et al. teaches an extrusion process for polystyrene where the die head protrudes into a chamber in which water is circulated at a pressure of 9 bar to produce expandable polystyrene granules (Example 1). Paquet et al. and Biglione et al. are analogous art as they are from the same field of endeavor, namely expandable polystyrene particles. At the time of invention, it would have been obvious to a person of ordinary skill in the art to use the pelletizing method taught by Biglione et al. to prepare the expandable styrene beads taught by Paquet et al. and the motivation to do so would have been that the method taught by Biglione et al. provides a product that can be stored prior to use in the forming of a foam.

Art Unit: 1796

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paquet et al. (US Pat. 5,650,106) as applied to claim 1 above, and further in view of Hahn et al. (US 5,010,111).

Considering Claim 5: Paquet et al. teaches the composition of claim 1 as shown above.

Paquet et al. does not teach prefoaming the composition followed by fusing the composition in a mold. However, Hahn et al. teach a process of producing foam moldings in which expandable polystyrene particles are pre-foamed using steam to a bulk density of 15 g/l. Then, the particles are welded to form a block in a mold (Column 5, Lines 1 – 7). Paquet et al. and Hahn et al. are analogous art as they are concerned with the same field of endeavor, namely expandable polystyrene compositions. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the process of Hahn et al. to produce the composition of Paquet et al., and the motivation to do so would have been that the molding process of Hahn et al. allows the shape of the product to be better controlled.

Response to Arguments

Applicant's arguments, see pages 4-7, filed August 12, 2009, with respect to the rejection(s) of claim(s) 1-7 under 35 U.S.C. 102/103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Paquet et al.

Contact Information

Any inquiry concerning this communication should be directed to Mark Eashoo at telephone number (571)272-1197.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

Mark Eashoo
SPE
Art Unit 1796